

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier version and listings.

1. (Currently Amended) A color image forming apparatus ~~having~~
comprising:

an image forming unit which forms a color image on a recording material;

~~a color measuring means unit for applying light to images of respective developer colors formed on a transferring material, and detecting reflected light from said images by an optical sensor which optically measures each of colors of a plurality of patch images formed on a recording material by said image forming unit, by detecting each of reflected lights from the plurality of patch images;~~

~~setting means for variably setting a detecting a measuring condition of said color controller which variably sets a measuring means in conformity with predicted reflectance condition of said color measuring unit in accordance with a patch image to be measured; and~~

~~control means for adjusting a forming condition controller which controls an image forming condition on a basis of the reflected light detected by said color means in accordance with said detecting condition set by said setting means a measuring result of said color measuring unit.~~

2. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said ~~detecting condition is an amount of light of a light source~~ color

measuring unit illuminates the plurality of patch image when said color measuring unit measures each of colors of a plurality of patch images, and the measuring condition is an amount of light of the light source.

3. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said ~~detecting condition is an accumulation time of~~ color measuring unit has an accumulation ~~type~~ sensor which accumulates a reflected light from the plurality of patch image, and the measuring condition is an accumulation time of the accumulation sensor.

4. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said ~~detecting condition is an accumulation time of an accumulation type sensor and a length of the detected images along~~ image forming unit varies lengths of the plurality of patch images along a conveyance direction in accordance with the accumulation time.

5. (Currently Amended) A color image forming apparatus according to Claim 2, wherein ~~[[the]]~~ an amount of light of the light source as ~~said detecting the~~ measuring condition is ~~changeable~~ variable so as to be decreased as ~~[[the]]~~ a predicted reflectance becomes greater and to be increased as ~~[[the]]~~ a predicted reflectance becomes smaller.

6. (Currently Amended) A color image forming apparatus according to Claim 3, wherein the accumulation time as ~~said detecting the~~ measuring condition is

~~changeable~~ variable so as to be decreased as ~~[[the]]~~ a predicted reflectance becomes greater, and to be increased as ~~[[the]]~~ a predicted reflectance becomes smaller.

7. (Currently Amended) A color image forming apparatus according to Claim 4, wherein the length of the ~~detected~~ patch image varied along the conveyance direction as ~~said detecting~~ the measuring condition is shortened as ~~[[the]]~~ a predicted reflectance becomes greater, and is lengthened as ~~[[the]]~~ a predicted reflectance becomes smaller.

8. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said color measuring ~~means~~ unit is provided with a light source having a spectrum over an entire visible light~~[[,]]~~ and a sensor ~~comprising~~ having pixels provided with three or more filters having a spectral characteristic.

9. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said color measuring ~~means~~ unit is provided with three or more light sources having difference spectra and one or more sensors.

10. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said color measuring ~~means~~ unit is provided with a light source having a spectrum over an entire visible light ~~[[,]]~~ and a sensor ~~comprising~~ having means for separating the reflected light from the images and a plurality of pixels for measuring the intensity of the separated lights.

11. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said color measuring ~~means~~ unit is provided with three or more light sources having different spectra, and one or more sensors, and when said light sources are turned on one by one and reflected lights corresponding to the respective light sources are detected by the sensor or sensors, the amount of light of each light source is ~~changed~~ varied in conformity with a predicted spectral reflectance.

12. (Currently Amended) A color image forming apparatus according to Claim 1, wherein said ~~setting means~~ measuring condition controller, when it sets ~~said detecting the measuring~~ condition, effects the setting of ~~said detecting the measuring~~ condition in conformity with ~~[[the]]~~ an actually measured reflectance of the images; ~~in addition to a predicted reflectance.~~

13. (Currently Amended) A color measurement controlling method for ~~a color image forming apparatus having~~ forming a color image on a recording material, comprising:

an image forming step, of forming a plurality of a color image on a recording material;

~~a color measuring step of applying light to images of respective developer colors formed on a transferring material, and detecting reflected light from the images by an optical sensor;~~

a setting step, of variably setting a ~~detecting~~ measuring condition of said color measuring step ~~for each developer color in conformity with predicted reflectance~~ in accordance with a patch image to be measured; and

a color measuring step, of optically measuring each of colors of a plurality of patch images formed on a recording material in said image forming step, by detecting each of reflected lights from the plurality of patch images;

a controlling step, of adjusting an image forming condition controlling an image forming condition on a basis of the reflected light detected at said color measuring step in accordance with the detecting condition variably set by said setting step a measuring result in said color measuring step.

14. (Currently Amended) A color measurement controlling method according to Claim 13, wherein ~~said detecting condition is an amount of light of a light source~~ the plurality of patch images are illuminated when each of colors of a plurality of patch images is measured in said color measuring step, and the measuring condition is an amount of light of the light source.

15. (Currently Amended) A color measurement controlling method according to Claim 13, wherein ~~said detecting condition is an accumulation time of in said color measuring step, an accumulation sensor is used for accumulating of a reflected light from the plurality of patch image, and the measuring condition is an accumulation time of the accumulation sensor~~

16. (Currently Amended) A color measurement controlling method according to Claim 13, wherein ~~said detecting condition is an accumulation time of an accumulation type sensor and a length of the detected images along in said image forming~~

step, lengths of the plurality of patch images are varied along a conveyance direction in accordance with the accumulation time.

17. (Currently Amended) A color measurement controlling method according to Claim 14, wherein ~~[[the]]~~ an amount of light of the light source as ~~said~~ detecting the measuring condition is ~~changeable~~ variable so as to be decreased as ~~[[the]]~~ a predicted reflectance becomes greater and to be increased as ~~[[the]]~~ a predicted reflectance becomes smaller.

18. (Currently Amended) A color measurement controlling method according to Claim 15, wherein the accumulation time as ~~said~~ detecting the measuring condition is ~~changeable~~ variable so as to be decreased as ~~[[the]]~~ a predicted reflectance becomes greater, and to be increased as ~~[[the]]~~ a predicted reflectance becomes smaller.

19. (Currently Amended) A color measurement controlling method according to Claim 16, wherein the length of the ~~detected~~ patch image varied along the conveyance direction as ~~said~~ detecting the measuring condition is shortened as ~~[[the]]~~ a predicted reflectance becomes greater, and is lengthened as ~~[[the]]~~ a predicted reflectance becomes smaller.

20. (Currently Amended) A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by a light source having a spectrum over

an entire visible light[[,]]and a sensor ~~comprising~~ having pixels provided with three or more filters having a spectral characteristic.

21. (Currently Amended) A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by three or more light sources having different spectra, and one or more sensors.

22. (Currently Amended) A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by a light source having a spectrum over an entire visible light [[,]]and a sensor ~~comprising~~ having means for separating the reflected light from the images and a plurality of pixels for measuring the intensities of the separated lights.

23. (Currently Amended) A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by three or more light sources having different spectra[[,]] and one or more sensors, and said color measuring step includes a step of turning on the light sources one by one and changing the amount of light of each light source in conformity with the predicted spectral reflectance when the reflected lights corresponding to the respective light sources are detected by the sensor or sensors.

24. (Currently Amended) A color measurement controlling method according to Claim 13, wherein in case of the setting of ~~said the~~ detecting condition at in said setting step, the setting of ~~said detecting the~~ measuring condition is effected in conformity with ~~[[the]]~~ an actually measured reflectance of the images, ~~in addition to the predicted reflectance.~~

25. (New) A color image forming apparatus according to Claim 1, wherein said color image forming apparatus further comprises a fixing unit that effects fixation an image on a recording material formed by said image forming unit, and said color measuring unit measures executes said each of colors of a plurality of patch images after the fixation.

26. (New) A color image forming apparatus according to Claim 1, wherein said color measuring unit has a converter that converts an analog output signal of an optical sensor to a digital signal.

27. (New) A color image forming apparatus according to Claim 1, wherein the patch image is made of mixed colors.

28. (New) A color image forming method according to Claim 13, further comprising a fixing step, of fixing an image on a recording material formed in said image forming step, and wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed after said fixing step.

29. (New) A color image forming method according to Claim 13, wherein said color measuring step includes a step of converting an analog output signal of an optical sensor to a digital signal.

30. (New) A color image forming method according to Claim 13, wherein the patch image is made of mixed colors.